

Appln No. 10/783,227

Amdt date September 8, 2005

Reply to Office action of July 27, 2005

REMARKS/ARGUMENTS

Claims 20 and 22-25 are pending. Claims 1-19 are canceled. Claim 25 is amended to correct a typographical error.

Claim 25 is objected to because of informalities. In view of the amendments to the above claim, it is respectfully requested that the above objection be withdrawn.

Claims 20, 22-23 and 25 are rejected under U.S.C. 102(b) as being fully anticipated by Kiyonaga et al. (U.S. 5,652,767); and claims 20 and 22 are rejected under U.S.C. 102(b) as being fully anticipated by Tomofuji et al. (U.S. 6,496,552). Claim 24 is rejected under U.S.C. 103(a) as being obvious over Kiyonaga. Applicants submit that all of the claims currently pending in this application are patentably distinguishable over the cited references, and reconsideration and allowance of this application are respectfully requested.

Independent claim 20 include, among other limitations, "a threshold controller programmed with information about clock amplitude versus threshold characteristics for determining a signal receiving discrimination threshold by collating an amplitude of the extracted clock from the clock extractor with the clock amplitude versus threshold characteristics."

Kiyonaga does not disclose the above limitations. Rather, Kiyonaga's system includes an optical parallel receiving link 85 that "has an average detecting circuit 88. The average detecting circuit 88 detects an average level of the clock supplied from the pre-amplifier 23<sub>n+1</sub> in the clock channel. The average level detected by the average detecting circuit 88 is supplied, as a threshold voltage for the clock, to the limiter amplifier 24<sub>n+1</sub>

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in the clock channel." There are undeniably substantial differences between "an amplitude" of a clock and "an average level" of a clock. For example, an amplitude level of a clock does not substantially change when a mark rate fluctuates. On the other hand, an average level changes according to fluctuation of a mark rate. This, among other differences, renders the claimed discrimination threshold substantially independent from the fluctuation of the mark rate, while resulting in a simpler circuit implementation.

Accordingly, independent claim 20 is not anticipated by Kiyonaga.

Independent claim 25 includes, among other limitations, "storing information about clock amplitude versus threshold characteristics" and "determining a signal receiving discrimination threshold according to an amplitude of the clock by collating an amplitude of the extracted clock with clock amplitude versus threshold characteristics." As explained above, Kiyonaga does not disclose the above limitations. As a result, independent claim 25 is not anticipated by Kiyonaga either.

With regard to Tomofuji et al., his system detects a pulse duty ratio. Detecting the pulse duty ratio requires a complex circuitry in which a "clock signal generator 34 extracts a clock signal CLK from the data signal output from the amplifier 31a and outputs the extracted clock signal CLK. The clock component detector 32 detects the signal output from the bandpass filter 34d which constitutes the clock signal generator 34 in synchronism with a low-frequency signal having a frequency of  $f_0$ .

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The reference signal generator 33b of the control circuit 33 generates a reference signal  $V_r$  by amplifying the signal output from the synchronous detector 32c, and the adder 33c superimposes the low-frequency signal on the reference signal  $V_r$  and inputs them to the reference terminal ref of the amplifier 31a. Feedback control is then executed so that the duty of the signal output from the amplifier 31a becomes 100%, namely, the output of the synchronous detector 32c becomes zero. The same control is repeated thereafter until the duty of the data signal, which is the output of the amplifier 31a, becomes 100%." (Col. 17, lines 25-42, underlining added.).

This is not the same as "a threshold controller programmed with information about clock amplitude versus threshold characteristics for determining a signal receiving discrimination threshold by collating an amplitude of the extracted clock from the clock extractor with the clock amplitude versus threshold characteristics," as recited by claim 20.

Consequently, independent claim 20 is not anticipated by Tomofuji.

In short, independent claims 20 and 25 define a novel and unobvious invention over the cited references. Dependent claims 22-24 are dependent from claim 20 and therefore include all the limitations of allowable claim 20 and additional limitations therein. Accordingly, these claims are also allowable over the cited references, as being dependent from allowable independent claim 20 and for the additional limitations they include therein.

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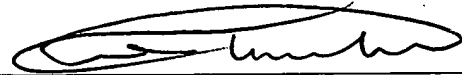
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In view of the foregoing amendments and remarks, it is respectfully submitted that this application is now in condition for allowance, and accordingly, reconsideration and allowance are respectfully requested.

Respectfully submitted,  
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